

### **REMARKS**

This Amendment is in response to the March 9, 2006 Office Action. The Examiner rejected claims 1 and 19-22 under 35 U.S.C. 103(a) as being unpatentable over Ratte et al. (U.S. Patent No. 6,902,095 B2) and further in view of Williamson et al. (U.S. Patent No. 5,553,764). Next, the Examiner rejected claims 2-6 and 8-14 under 35 U.S.C. 103(a) as being unpatentable over Ratte et al. and Williamson et al. as applied to claim 1, and further in view of Whitney (U.S. Patent No. 2,353,531). Finally, the Examiner rejected claims 1, 7, 20 and 22 under 35 U.S.C. 103(a) as being unpatentable over Ratte et al. and Williamson et al. and further in view of Landgrebe (U.S. Patent No. 5,704,749).

The Applicant appreciates the time and consideration that the Examiner has provided in reviewing this application. By the above amendment, claims 1 and 8 have been amended. Applicants respectfully submit that claims 1-14 and 19-22 as amended are allowable over all of the cited art and that the present amendment should be entered.

The present invention is directed to a battery terminal bolt for use during insert molding into a lead-alloy subassembly. The battery terminal bolt preferably has a head portion, a washer portion, a sealing portion, and a threaded portion. The threaded portion of the bolt is located outside of the mold cavity while the rest of the bolt is encased in lead-alloy.

The insert molding of the battery terminal bolt into a lead-alloy subassembly presents a myriad of manufacturing and structural issues. The present invention provides a sealing portion that is disposed between the washer portion and the threaded portion in the form of a frustoconical shape that allows the bolt to be sealed when placed into an insert molding. In other

words, it creates a shut-off point where no lead-alloy can pass through. It is common during insert molding, which by nature utilizes very high temperatures, for lead to leak from the mold cavity onto the threaded portion of the bolt, causing problems for manufacturers who must waste time to remove the lead from the bolt when received. Also, the leakage prevents a firm connection between the battery leads and the battery terminal. The sealing portion of the present invention, as a unique conical surface, provides a uniform surface that substantially seals the mold cavity and prevents lead from escaping the mold onto the threaded portion of the bolt.

Applicants respectfully submit that none of the prior art cited by the Examiner discloses, teaches or suggests the present invention. Neither independent claim 1 nor 8, as amended, is obvious based upon any of the cited art. Claims 1 and 8 were amended to specify that the bolt is insert molded into the battery cell subassembly. Obviousness requires that each and every element of a claim be present in a combination of references, along with a teaching, motivation and suggestion of success in combining them. *See* MPEP 2143.01. A modification to a reference is not obvious if it changes that reference's principle of operation. MPEP § 2143.01. In addition, a modification to a reference that renders the reference unsatisfactory for its intended purpose is not obvious. *Id.*

The combination of Ratte et al. and the other cited prior art fail to teach the present invention. The Examiner cites Ratte et al. in his obviousness rejection of independent claims 1 and 8 as disclosing a method of cold forming a two-part battery terminal and a two-part cold formed battery terminal comprising a cold formed lead or lead alloy slug. As amended, the present invention is directed to a battery terminal bolt for use in insert molding. The method disclosed in Ratte et al. is specifically directed to a cold forming process, whereas the present

invention is for use during a heated insert molding process. Ratte et al.'s principle of operation is inherently different from the present invention. One skilled in the art would not look to Ratte et al. to solve the problem of lead-alloy leaking from the mold cavity onto the battery terminal bolt's threads because the cold forming process does not fundamentally deal with such a problem. Cold forming is a high-speed manufacturing process that produces parts by metal flow due to machine applied pressure as opposed to metal removal by cutting or heating. Therefore, during the cold forming process there is no issue with regard to the type of leakage solved by the present invention.

Accordingly, Ratte et al., as well as the other prior art cited, fail to teach a battery terminal bolt used specifically during an insert molding process. Claims 1 and 8 are therefore not obvious.

Because claims 1 and 8 are patentable, claims 2-14 and 19-22 are patentable as dependent from patentable base claims. *See* MPEP § 2143.03; *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988).

### **CONCLUSION**

In conclusion, and in view of the Amendment and Remarks set forth above, the Applicants respectfully submit that the application and the claims are in condition for allowance and respectfully request favorable consideration and the timely allowance of all pending claims.

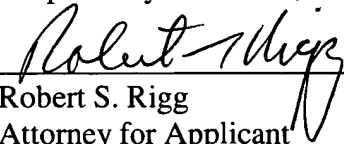
Applicants respectfully submit that the amendments herein demonstrate Applicants' preference for a particular language and, notwithstanding anything to the contrary, are not intended to be amendments related to patentability. Furthermore, Applicants respectfully submit

that the amendments herein merely add language of equivalent scope, and that nothing herein is intended to narrow the scope of the claims.

The Commissioner is hereby authorized to charge any additional fees (or credit any overpayment) associated with this communication to our Deposit Account No. 13-0019. If a fee is required for an extension of time under 37 C.F.R. 1.136 not accounted for above, such extension is requested and should also be charged to our Deposit Account.

**CUSTOMER NUMBER 26565**  
MAYER, BROWN, ROWE & MAW LLP  
P.O. Box 2828  
Chicago, Illinois 60690-2828  
312-701-7354  
Dated: September 11, 2006

Respectfully submitted,

  
Robert S. Rigg  
Attorney for Applicant  
Reg. No. 36,991